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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/628,798

07/29/2003

Yao Tsun Lu

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07/20/2005

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EXAMINER

HAMMOND, BRIGGITTE R

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,798

Applicant(s)

LU, YAO TSUN

Examiner

Brigitte R. Hammond

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 1,2,5 and 6 are objected to because of the following informalities: in claim 1, line 11, change "narrow" to - - narrower - -, in claim 2, line 3, change "using" to - - used- - and in claim 6, line 4, after "connected" insert - -at- -.

Claims 5 and 6 recite the limitations "the element" in line 2. There is insufficient antecedent basis for this limitation in the claim. Change "the element" to - - the conductive helical spring- -. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (e.g. Hansen 6,239,393), herein referred to as AAPA/Hansen in view of Koizumi et al. 4,733,036. AAPA/Hansen as disclosed on pages 1-2 of the instant application discloses the invention substantially as claimed. AAPA/ Hansen discloses a restorable conductive elastic connector comprising: a connector 10 capable of being sucked by a sucking unit of a machining device; the connector 10 being transferred by the machining device and then be adhered to a machining object, the sucking unit has an air channel, the air channel being extended with an outlet portion at a bottom of the sucking unit; the outlet section having a tapered

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shape and an inner end of the shape having a small opening connected to the straight channel (see fig. 3) the air channel having a sucking ability under negative pressure, the connector 10 being a conductive helical spring. AAPA/ Hansen does not disclose the conductive helical spring being wound as a sandglass with a waist portion narrower than the top and bottom portions and the top portion being smaller than the bottom portion. However, Koizumi et al. discloses a connector having a conductive helical spring being wound as a sandglass with a waist portion narrower than the top and bottom portions and the top portion being smaller than the bottom portion. Therefore, it would have been obvious to one of ordinary skill to modify the connector of AAPA/Hansen by having the conductive helical spring being wound as a sandglass as taught by Koizumi et al. to provide a linearly increasing depression force.

Regarding claim 8, the machining device is a SMT machining device using in surface mounting device.

Regarding 9, the machining object is a printed circuit board.

Regarding 10, the machining object is conduction means for conducting electronic signals of an electronic device.

Regarding 11, the conductive helical spring is restorable in a reel tank.

Regarding 12, the conductive helical spring is fixed to the machining object (col.3 3, lines 18-20) and then is sucked by a sucking unit and thus compressed so that the distance connected at a bottom of the sucking unit and a surface of the machining object is reduced.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

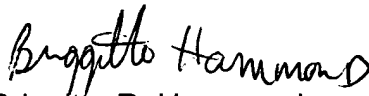
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brigitte R. Hammond whose telephone number is 571-272-2006. The examiner can normally be reached on Mon.-Thurs. and Alternate Fridays from 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571-272-2800 ext. 33. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Brigitte R. Hammond
Primary Examiner
Art Unit 2833

July 12, 2005